

Disaster Damage Assessment

**Virginia Department of
Emergency Management**

Recovery & Mitigation Division

Welcome & General Introduction

Workshop Topics

- **Three types of disaster damage assessments**
- **Local responsibilities for Initial Damage Assessments**
- **Collecting & reporting information within FEMA required damage categories**
- **Disaster assistance program overview**

3 Damage Assessment Types

- **Rapid Needs Assessment (RNA)**
- **Initial Damage Assessment (IDA)**
- **Joint Preliminary Damage Assessment (PDA)**

Assessment Purposes

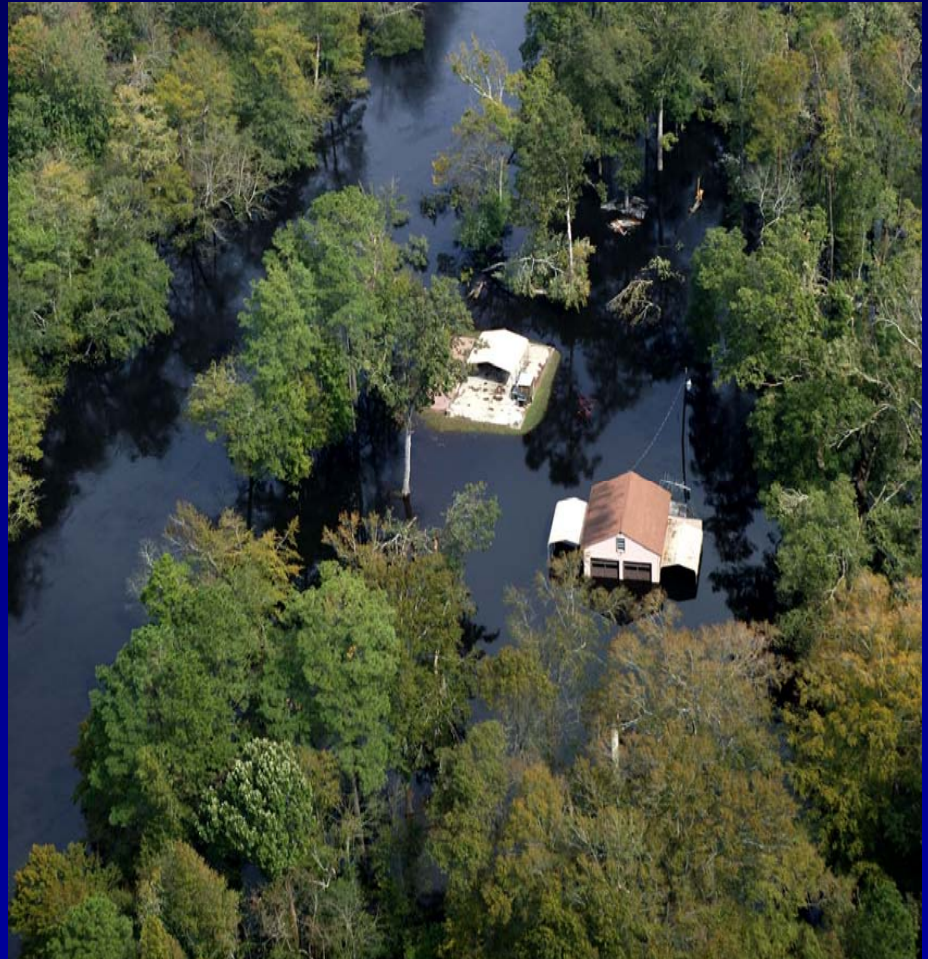
- **Assess** threats to life safety to deploy all disaster response resources tactically.
- **Assess** local property and infrastructure damage and need for state assistance.
- **Assess** eligibility for federal recovery programs.

Rapid Needs Assessment (RNA)

- RNA's focus on life safety, hazards and critical needs within first 24 hours.
- RNAs can be done by windshield in geographic sectors or flyover.
- RNAs happen during the **Response Phase** of disaster activity.
- RNA results are submitted to the Virginia Emergency Operations Center (VEOC) in the Situation Report.

RNA's Evaluate Disaster Impacts:

1. Food and water
2. Evacuation & re-entry
3. Shelter issues
4. Medical emergencies
5. Hazardous material dangers
6. Disrupted transportation corridors
7. Utility restoration



Initial Damage Assessment (IDA)

**The local government evaluation
of disaster impacts. The objects
of assessment are:**

- Residences**
- Businesses**
- Public infrastructure**
- Emergency activities**

Initial Damage Assessment

- IDA's determine if the Governor will request federal disaster aid.
- IDA's belong to the **Recovery Phase** of disaster activity.
- Summaries should be submitted to the VEOC within 72 hours.



Joint Preliminary Damage Assessment

A Joint Preliminary Damage Assessment (PDA) is a local-state-federal damage evaluation that verifies the need for Federal recovery assistance.

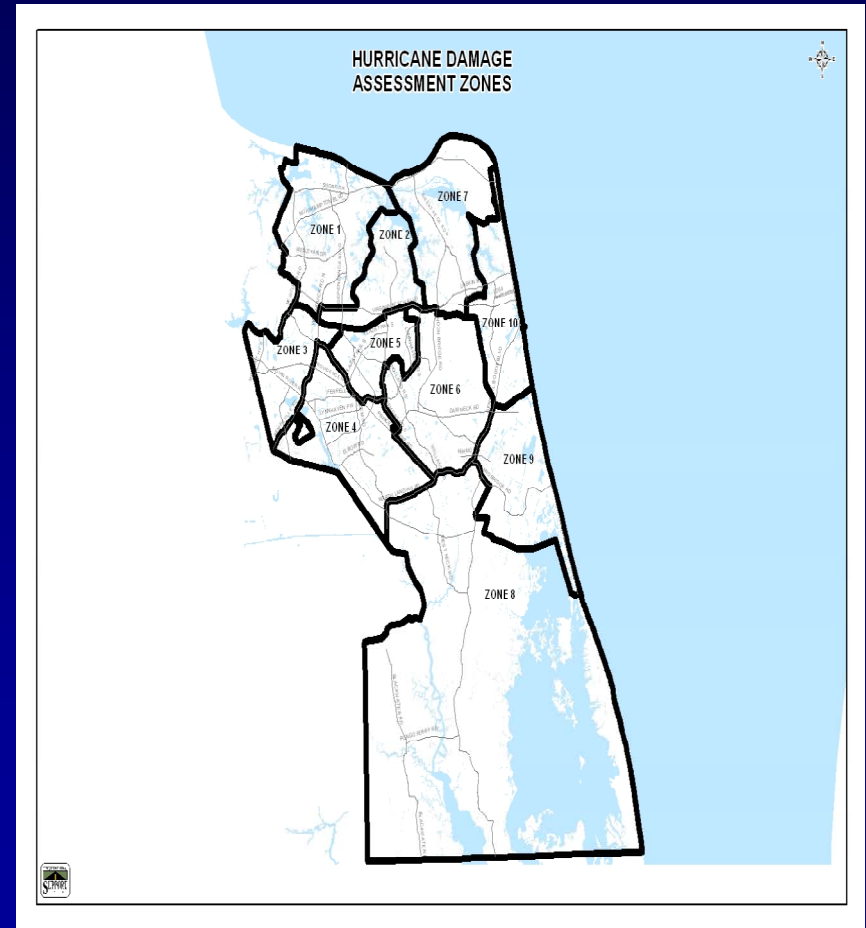


Local Government Responsibilities

- **Comprehensive damage assessment strategy in Emergency Operations Plan**
- **Team Composition**
- **Estimating damage categories/costs & insurance coverage**
- **Describe community impacts**
- **Submit IDA summary to the VEOC**

Common Deficiencies in Strategy

- Community has not been prearranged into sectors.
- Characteristics of the damage areas not known.
- Not conducting pre-deployment briefings.
- Damage assessment team members not pre-determined or trained.



Team Composition

- **Who is on your team now?**
- **Ideal IDA Team Members**
 - Building and Fire Code Officials
 - Tax assessors
 - Planners
 - CERT Team Members
 - Elected Official's Staff

It is essential that team members are trained in damage assessment categories and use of the damage assessment form.

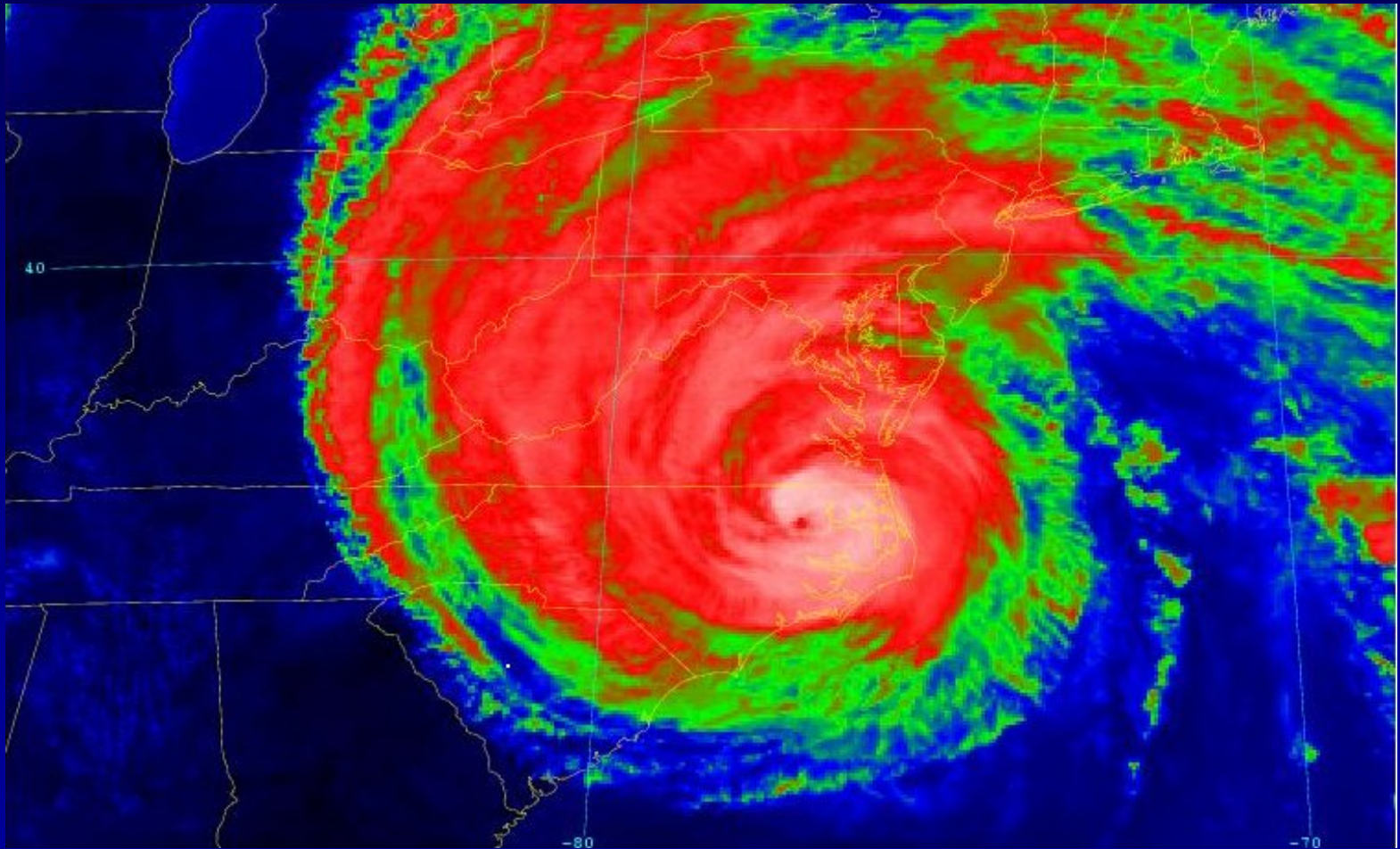
Damage Assessment Go Kit

- Highway & GIS or topo maps
- Flashlights and Extra Batteries
- Reflective/Protective Vests/Rain gear/steel toe boots/gloves
- First Aid Kit/insect repellent/sunscreen
- Cell phone/radio
- Water and snacks

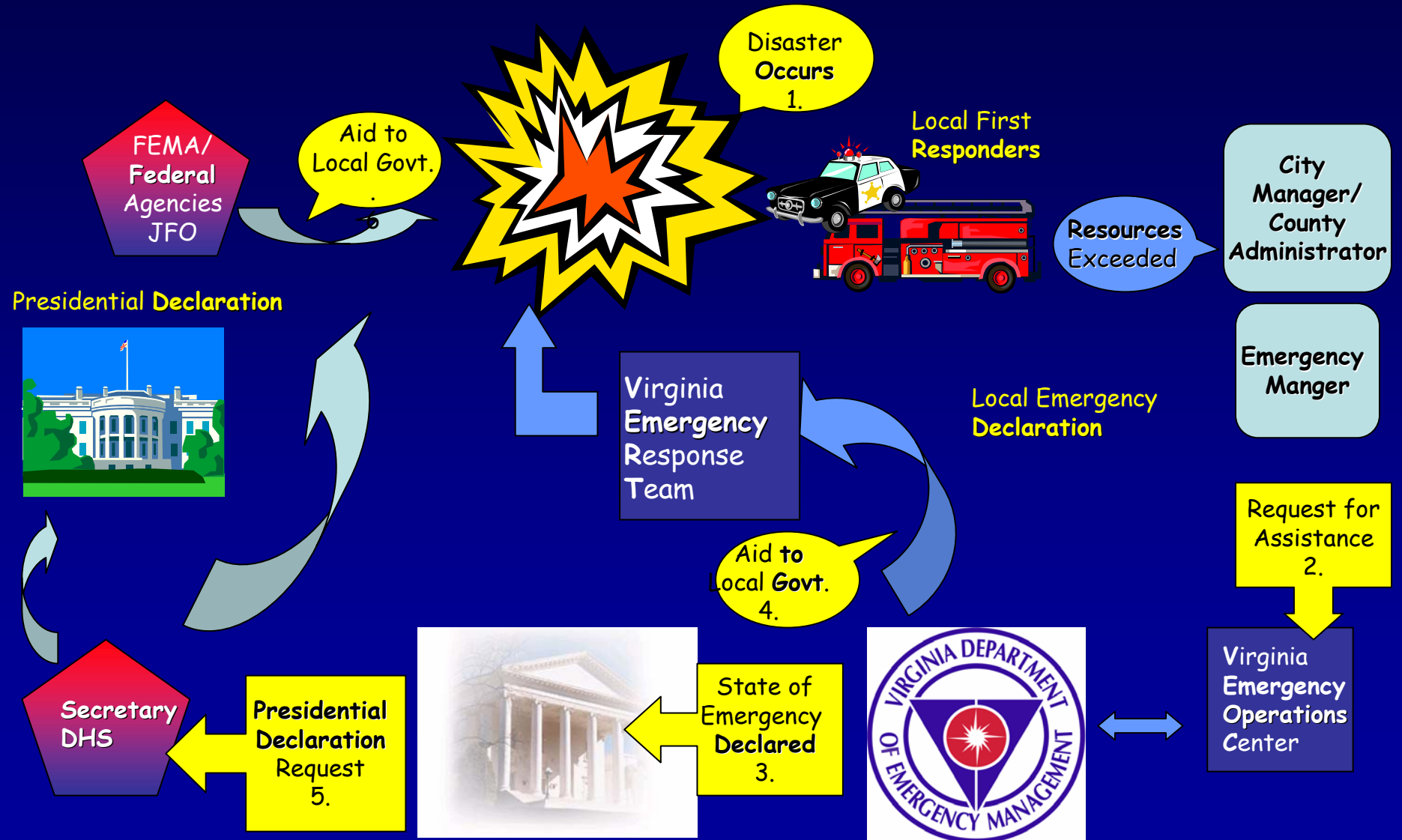
Damage Assessment Go Kit

- Measuring Tape
- Camera
- GPS
- Community Contact Names and Numbers
- Assessment Forms and Instructions
- Pens/Pencils/Clipboards

DISASTER STRIKES



Disaster Response in the Commonwealth of Virginia



Damage Assessment Process

- The Local Emergency Coordinator alerts damage assessment coordinator/teams and schedules a briefing:
 - Provide assignments for each damage assessment team
 - Review damage categories & forms
 - Emphasize safety issues
 - Establish call in and reporting procedures

Assignments

- **Each teams consists of at least two members.**
- **Each team tours areas assigned, inspects damage, completes forms and reports information rapidly.**
- **Each team member should have credentials of some type.**

Deploying the Teams



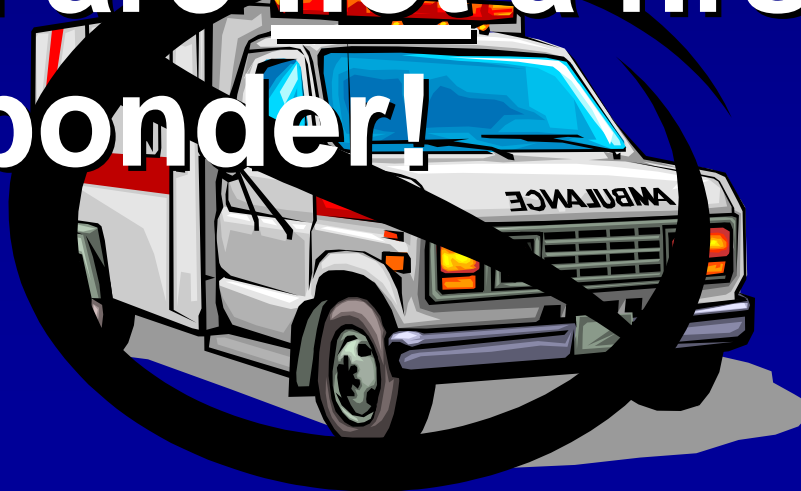
Damage Assessment Teams should deploy as soon as possible but should not begin until:

- Areas are secure and safe
- Sufficient daylight is available for safe operations
- Severe conditions have dissipated

Deploying Teams

If in doubt, don't go out. You are doing damage assessment.

You are not a first responder!



Data Collection

Important Data Elements

- Category of Damage
- Primary or Secondary Residence
- Detached garages, sheds are not considered unless business-related
- Owner or Renter
- Special Needs – language, disability
- Accessibility – private bridges
- *Landscape, docks and piers, shorelines, and landslides are not considered*

Estimating Insurance Coverage

- Only uninsured damages are relevant when seeking federal assistance.
- Type of disaster damage makes a difference for insurance purposes.
 - Wind or wind and driving rain
 - Flooding
 - Hurricane

Type of Insurance makes a difference

- **NFIP for flood or hurricane prone areas**
- **Property (Does not cover flooding)**
- **Wind/Hurricane**
- **Contents coverage is an add-on**



Estimating Damage Costs

An estimate helps characterize the severity of the event.

Clues:

- **Use a standard damage percent and real estate assessment data.**
- **Use damage percent and census data.**
- **Use cost estimates where available**

Be consistent!

Sample: Local Government Caller Damage Report

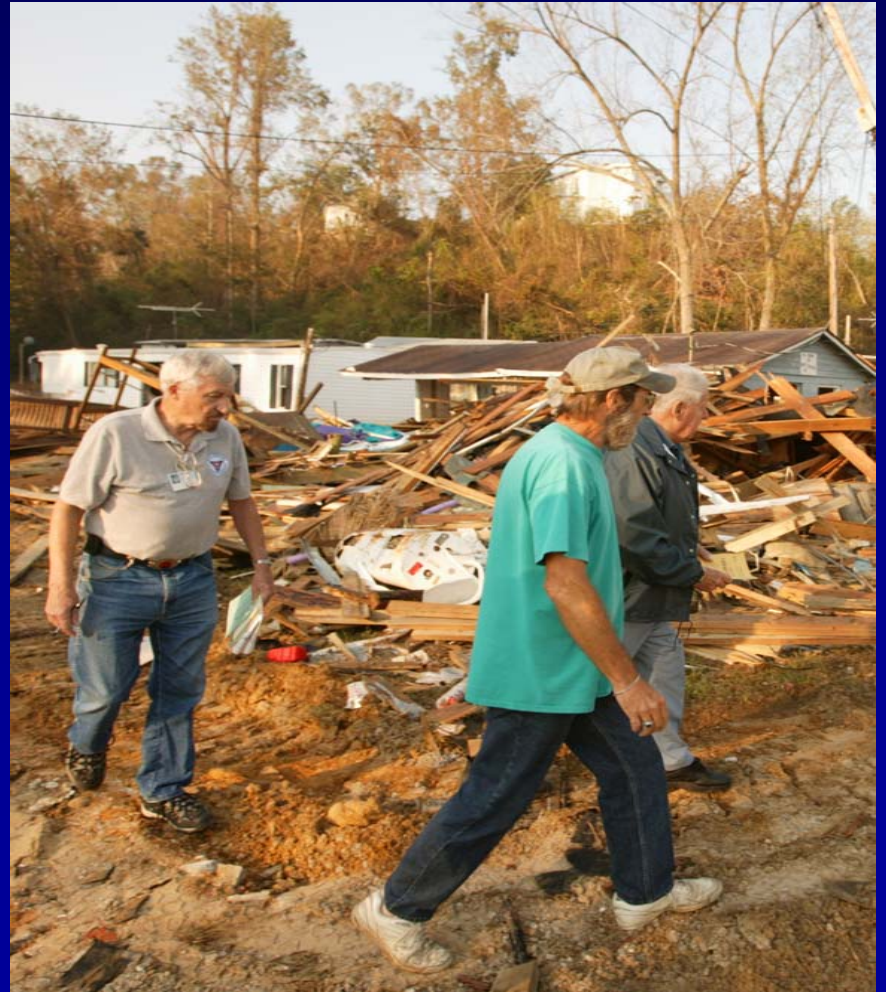
LOCAL GOVERNMENT DAMAGE ASSESSMENT – TELEPHONE REPORT				
1. CALLER NAME			2. PROPERTY ADDRESS (include apt. no; zip code)	
3. TELEPHONE NUMBER			4. TYPE OF PROPERTY	5. OWNERSHIP
Home	Work	Cell	<input type="checkbox"/> Single Family <input type="checkbox"/> Multi-Family (usually Apts.) <input type="checkbox"/> Business <input type="checkbox"/> Check here if residence is a vacation home—not a primary residence	<input type="checkbox"/> Own <input type="checkbox"/> Rent <input type="checkbox"/> Lease (business only)
Best time to call	Best number to use			
6. CONSTRUCTION TYPE				
<input type="checkbox"/> Masonry <input type="checkbox"/> Wood Frame <input type="checkbox"/> Mobile Home <input type="checkbox"/> Manufactured <input type="checkbox"/> Other				
7. TYPE OF INSURANCE				
<input type="checkbox"/> Homeowner's insurance <input type="checkbox"/> Sewer Back-up <input type="checkbox"/> Flood (Structure) <input type="checkbox"/> Flood (Contents) <input type="checkbox"/> No				
8. DAMAGES (Check all that apply)				
HVAC <input type="checkbox"/> Yes <input type="checkbox"/> No Water Heater <input type="checkbox"/> Yes <input type="checkbox"/> No Electricity <input type="checkbox"/> On <input type="checkbox"/> Off Natural Gas <input type="checkbox"/> On <input type="checkbox"/> Off Roof Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Foundation <input type="checkbox"/> Yes <input type="checkbox"/> No Windows <input type="checkbox"/> Yes <input type="checkbox"/> No Sewer <input type="checkbox"/> OK <input type="checkbox"/> Not OK Major Appliances <input type="checkbox"/> Yes <input type="checkbox"/> No				
9. SOURCE OF DAMAGES				
<input type="checkbox"/> Sewer back-up <input type="checkbox"/> Primarily Flood <input type="checkbox"/> Wind/Wind driven rain <input type="checkbox"/> Tornado Other <input type="checkbox"/> _____				
10. Based on the damages reported, the property is currently <input type="checkbox"/> Habitable <input type="checkbox"/> Uninhabitable				
11. CALLER'S ESTIMATE OF DAMAGES				
REPAIRS		CONTENTS		TOTAL
\$ _____		\$ _____		\$ _____
11. COMMENTS				
12. CALL TAKER			13. DATE & TIME REPORT TAKEN	

DISCUSSION & BREAK

IDA Field Operations

Individual Assistance Program

***Where the
Boots Hit
the Ground!***



Accurate, factual damage assessment requires physical inspection of the structure...



Initial Damage Assessment Individual Assistance Program

- **Number of residential & Business structures:** owner occupied - rented, by category of damage !
- **Estimates of insurance coverage.**
- **Estimated costs to repair / replace structures.**
- **Any other contextual or background information that will help characterize disaster impacts to the community.**



Individual Assistance Damage Assessment Level Guidelines

Damage Definitions	General Description	Things to Look For	Water Levels
DESTROYED	DESTROYED	DESTROYED	DESTROYED
Structure is a total loss. <u>Not economically feasible to rebuild.</u>	Structure leveled above the foundation, or second floor is gone. Foundation or basement is significantly damaged.	Structure leveled or has major shifting off it's foundation or only the foundation remains. Roof is gone, with noticeable distortion to walls.	More than 4 feet in first floor. More than 2 feet in mobile home .
MAJOR	MAJOR	MAJOR	MAJOR
Structure is currently uninhabitable. Extensive repairs are necessary to make habitable. <u>Will take more than 30 days to repair.</u>	Walls collapsed. Exterior frame damaged. Roof off or collapsed. Major damage to utilities: furnace, water heater, well, septic system.	Portions of the roof and decking missing. Twisted, bowed, cracked, or collapsed walls. Structure penetrated by large foreign object, such as tree. Damaged foundation.	2 to 4 feet in first floor without basement. 1 foot or more in first floor with basement. 6 inches to 2 feet in mobile home with plywood floors. 1 inch in mobile home with particle board floors.
MINOR	MINOR	MINOR	MINOR
Structure is damaged, and uninhabitable. Minor repairs are necessary to make habitable. <u>Will take less than 30 days to repair.</u>	Interior flooring / exterior walls with minor damage. Tree(s) fallen on structure. Smoke damage. Shingles / roof tiles moved or missing.	Many missing shingles, broken windows and doors. Loose or missing siding. Minor shifting or settling of foundation. Minor damage to septic system.	2 inches to 2 feet in first floor without basement. 1 foot or more in basement. <u>Crawlspace</u> – reached insulation. <u>Sewage</u> - in basement. Mobile home , "Belly Board" to 6 inches.
AFFECTED HABITABLE	AFFECTED HABITABLE	AFFECTED HABITABLE	AFFECTED HABITABLE
Structure has received minimal damage and is habitable without repairs .	Chimney or porch damaged. Carpet on first floor soaked. Broken windows.	Few missing shingles, some broken windows. Damage to air conditioning units / etc. Some minor basement flooding.	Less than 2 inches in first floor Minor basement flooding. Mobile home , no water in "Belly Board".

IDA Tips: Estimating Water Depths

Brick - 2 1/2 inches per course

Lap or aluminum siding - 4 inches or 8 inches per course



Stair risers - 7 inches

Concrete or cinder block - 8 inches per course

Door knobs - 36 inches above floor

Standard doors - 6 feet 8 inches

Destroyed

Damage Definitions	General Description	Things to look for...	Where's the water?
<p>Structure is a total loss.</p> <p><u>Not economically feasible to rebuild.</u></p>	<ul style="list-style-type: none"> •Structure leveled above the foundation or second floor is gone. •Foundation or basement damaged significantly. 	<ul style="list-style-type: none"> •Structure is leveled or has <i>Major</i> shifting off its foundation or only the foundation remains. •Roof is gone with noticeable distortion of the walls. 	<div data-bbox="1395 544 1487 629"></div> <p>More than 4 feet on the first floor.</p> <div data-bbox="1395 793 1544 911"></div> <p>More than 2 feet in the mobile home.</p>

Destroyed



Structure is a total loss.

Not economically feasible to rebuild.

Destroyed

Structure leveled above the foundation.
Roof is gone with noticeable distortion of the walls.



Destroyed

Not economically feasible to rebuild





Destroyed



**Roof is gone with noticeable distortion of the walls.
Structure is a total loss.**



Major

Damage Definitions	General Description	Things to look for...	Where's the water?
<p>Structure is currently uninhabitable. Extensive repairs are necessary to make it habitable.</p> <p><u>Will take <i>more</i> than 30 days to repair.</u></p>	<ul style="list-style-type: none"> • Walls collapsed. • Exterior frame damaged. • Roof off or collapsed. • Major damage to utilities: furnace, heater, water heater, well, septic system. 	<ul style="list-style-type: none"> • Portions of roof & decking missing. • Twisted, bowed, cracked, or collapsed walls. • Structure penetrated by large object, such as tree. • Damaged foundation. 	 <p>2-4 feet in first floor.</p> <p>1 foot or more in first floor with basement.</p>  <p>6 inches to 2 feet in mobile home with plywood floors – 1 inch with particle board floors.</p>

Major



6 inches to 2 feet in mobile home with plywood floors
1 inch with particle board floors.

Will take *more* than 30 days to repair.

Major



Water heater



Warrants closer exam

06/28/2006

Major



Minor

Damage Definitions	General Description	Things to look for...	Where's the water?
<p>Structure is damaged and uninhabitable. Minor repairs are necessary to make habitable.</p> <p><u>Will take less than 30 days to repair.</u></p>	<ul style="list-style-type: none"> •Interior flooring /exterior walls with some damage. •Tree(s) fallen on structure. •Smoke damage. •Shingles / roof tiles moved or missing. 	<ul style="list-style-type: none"> •<i>Minor</i> shifting or settling of foundation. •Many missing shingles, broken windows and doors. •<i>Some</i> damage to septic system. •Loose or missing siding. 	 <p>2 inches – 2 feet on the first floor without basement. 1 foot or more in the basement.</p> <p>Crawl space – reached insulation.</p> <p>Sewage in the basement.</p>  <p>“Belly Board” to 6 inches in mobile home.</p>

Minor

Many missing shingles, broken windows and doors.

Loose or missing siding.



Minor

2 inches – 2 feet on the first floor without basement.

Will take less than 30 days to repair.



Minor



Tree(s) fallen on structure.

Minor



2 inches or less on the first floor (Affected).

Carpet on first floor soaked (Affected).

Crawl space – water reached insulation (Minor).

Minor





Minor

Some *minor* basement flooding (Affected).

Sewage in the basement (Minor).



Affected

Damage Definitions	General Description	Things to look for...	Where's the water?
<p>Structure has received <i>Minimal</i> damage and is <u>habitable without repairs.</u></p>	<ul style="list-style-type: none"> • Chimney or porch damaged. • Carpet on first floor soaked. • Broken windows. 	<ul style="list-style-type: none"> • Few missing shingles, some broken windows. • Damage to air conditioning units, etc. • Some <i>minor</i> basement flooding. 	 <ul style="list-style-type: none"> • 2 inches or less on the first floor. • <i>Minor</i> basement flooding.  <ul style="list-style-type: none"> • No water in "Belly Board" of mobile home.

Affected

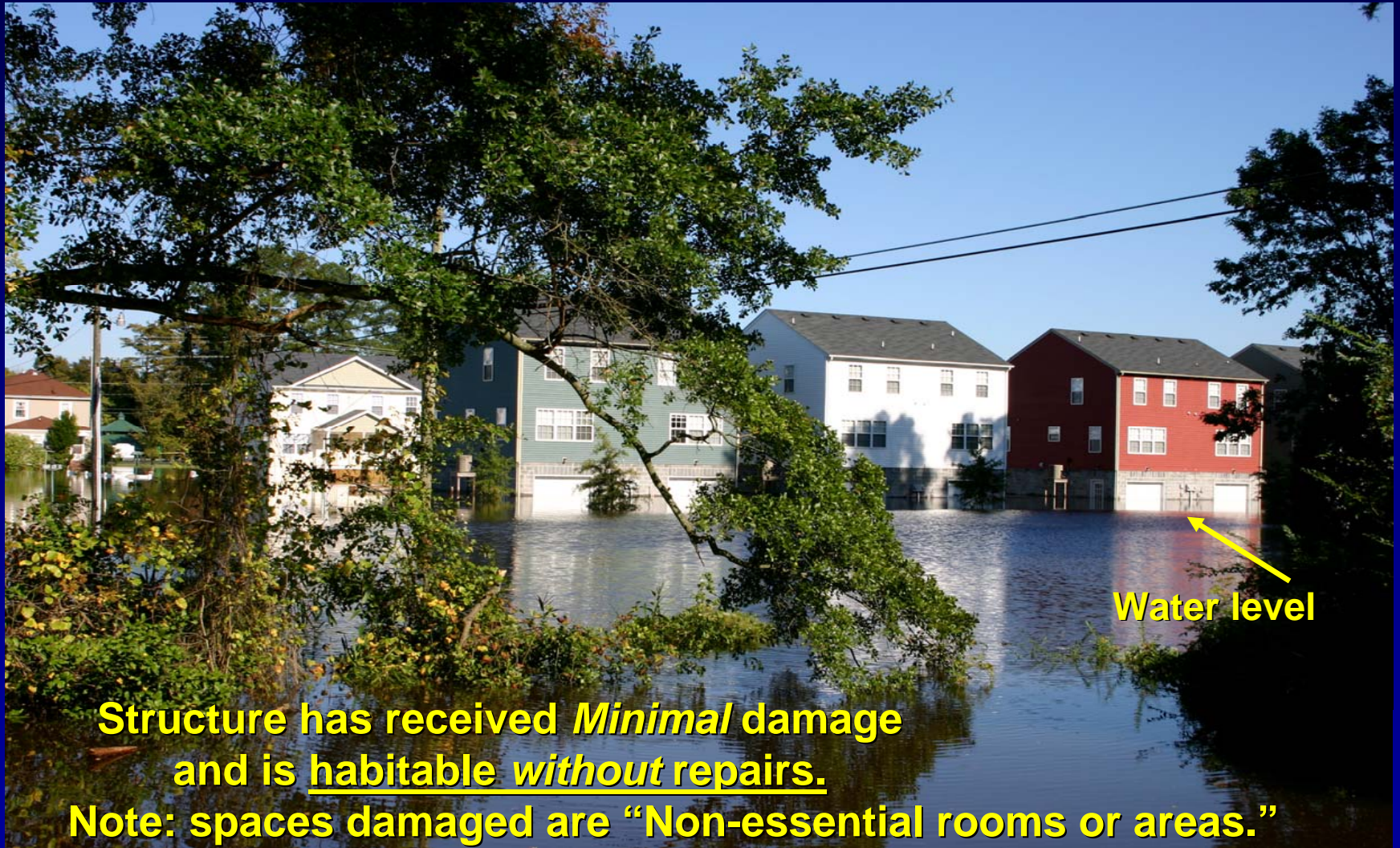


2 inches or less of water on the first floor.

09/06/2006

Carpet on first floor soaked.

Affected



Structure has received *Minimal* damage
and is habitable without repairs.

Note: spaces damaged are “Non-essential rooms or areas.”

Inaccessible



**Inaccessible
by *normal*
Means due
to disaster.**



- Road flooded
- Severe erosion
- Bridge out
- Land slide
- Mud slide
- Wash out
- Etc.

IDA Tips

- Use the damage level guide.
- Destroyed and Major structures will usually have *compromised structural components*.
- Destroyed, Major, and Minor structures are *uninhabitable*.
- Choose the higher level of damage when in doubt between two levels.
- Provide descriptions with the numbers that will help *visualize* disaster impacts.

Multi-Family Buildings

Every unit impacted must be counted within its damage category.



IDA Tips: Estimating Water Depths

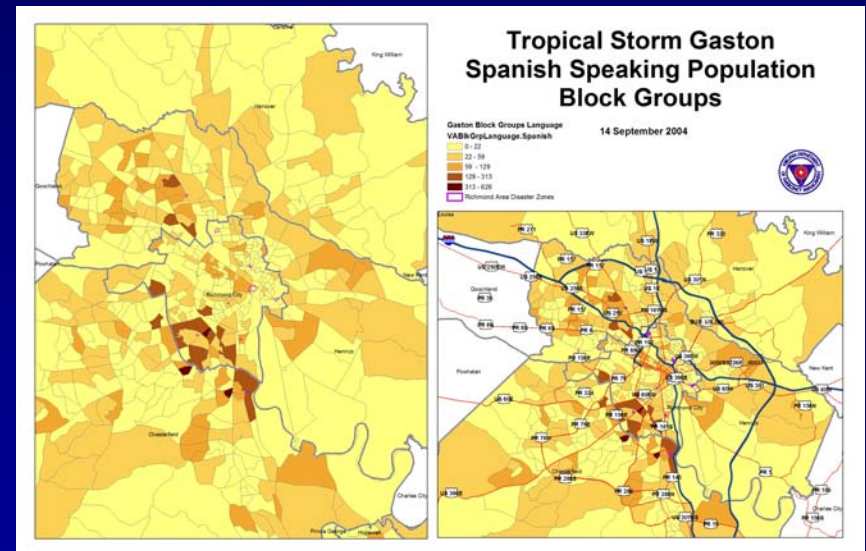


Water Level

- **Brick**
2 1/2 inches per course
- **Concrete or cinder block**
8 inches per course
- **Lap or aluminum siding**
4 inches or 8 inches per course
- **Door knobs**
36 inches above floor
- **Stair risers**
7 inches
- **Standard doors**
6 feet 8 inches

Initial Damage Assessment Summary Reporting

- Return completed Assessment Forms to Local Emergency Coordinator
- Add disaster-specific comments or observations
- Coordinator compiles information and submits to VEOC



Submitting information to the VEOC

- Cumulative IDA summary data **via local emergency coordinator,**
- Use the on-line form in WebEOC or [www.vaemergency.com/recovery center](http://www.vaemergency.com/recovery_center)
- Submit Cumulative IDA results form to Local Liaison Section of the VEOC (804) 674-2400 or fax (804) 674-2419 or E-mail to veoc@vdem.virginia.gov.

Local Government Cumulative Initial Damage Assessment Report

Local Government

CUMULATIVE INITIAL DAMAGE ASSESSMENT REPORT

VDEM VEOC Phone Number (804) 674-2400 Fax Number (804) 674-2419

www.vaemergency.com

Jurisdiction:									
Date/Time IDA Report Prepared:									
Prepared By:									
Call back number:									
Fax Number:									
Email Address:									
Part I: Private Property CUMULATIVE DAMAGES									
Type Property	# Destroyed	# Major Damage	# Minor Damage	# Affected	Dollar Loss	% Flood Insured	% Property Insured	% Owned	% Secondary
Single Dwelling Houses									
Multi-Family Residences									
Manufactured Residences (Mobile)									
Business/Industry									
Non-Profit Organization Buildings									
Agricultural Facilities									
Part II: Public Property (Includes eligible non-profit Facilities) CUMULATIVE DAMAGES									
Type of Property	Estimated Dollar Loss							% Insured	
Category A (Debris Removal)									
Category B (Emergency Protective Measures)									
Category C (Roads and Bridges)									
Category D (Water Control Facilities)									
Category E (Public Buildings and Equipment)									
Category F (Public Utilities)									
Category G (Parks and Recreation Facilities)									
TOTAL								\$0.00	
Additional Comments:									

IDA RESULTS

- Assists local government priorities and decisions
- Informs Governor's request for federal assistance based on IDA
- Governor specifies programs requested (IA, PA, HMGP) *by City and County*



QUESTIONS



BREAK